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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Kang Soo Seo

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EXAMINER

CHIO, TAT CHI

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/642,635	Applicant(s) SEO ET AL.	
	Examiner TAT CHI CHIO	Art Unit 2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 January 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4,5 and 7-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4,5 and 7-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>3/5/2008</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114.

Applicant's submission filed on 1/31/2008 has been entered.

Response to Arguments

2. Applicant's arguments regarding to claim rejections 35 U.S.C. 101 filed 1/31/2008 have been fully considered but they are not persuasive.

Applicant argues that claims 1, 2, 4, 5, and 7-19 constitute statutory subject matter because the computer readable medium includes a data structure having a management data area, which provides management information for managing reproduction of video data recorded on the computer readable medium.

In response, the examiner respectfully disagrees. Claims 1, 2, 4, 5, and 7-19 is nonfunctional descriptive material because the data area and management area recited in these claims are mere arrangement of data. MPEP 2106.01 states that "functional descriptive material" consists of data structures and computer programs which impart functionality when employed as a computer component. (The definition of "data structure" is "a physical or logical relationship among data elements, designed to support specific data manipulation functions." The New

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IEEE Standard Dictionary of Electrical and Electronics Terms 308 (5th ed. 1993).) “Nonfunctional descriptive material” includes but is not limited to music, literary works, and a compilation or mere arrangement of data.

Claim Rejections - 35 USC § 101

1. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1, 2, 4, 5 and 7-19 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Nonfunctional descriptive material that does not constitute a statutory process, machine, manufacture, or composition of matter and should be rejected under 35 U.S.C. 101. Certain types of descriptive material, such as music, literature, art, photographs, and mere arrangements or compilations of facts or data, without any functional interrelationship is not a process, machine, manufacture, or composition of matter. USPTO personnel should be prudent in applying the foregoing guidance. Nonfunctional descriptive material may be claimed in combination with other functional descriptive multi-media material on a computer-readable medium to provide the necessary functional and structural interrelationship to satisfy the requirements of 35 U.S.C. 101. The presence of the claimed nonfunctional descriptive material is not necessarily determinative of nonstatutory subject matter. For example, a computer that recognizes a particular grouping or sequence of musical notes read from memory and thereafter causes another defined series of notes to be played, requires a functional interrelationship among that data and the computing processes performed when utilizing that data. As such, a claim to that computer is statutory subject matter because it implements a statutory process.

Claims 1, 2, 4, 5 and 7-19 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter as follows. Claims 1, 2, 4, 5 and 7-19 recite a computer readable medium which does not impart functionality to a computer or computing device, and is thus considered nonfunctional descriptive material. Such nonfunctional descriptive material, in the absence of a functional interrelationship with a computer, does not constitute a statutory process, machine, manufacture or composition of matter and is thus non-statutory per se.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 2, 4, 7-15, 17, 18, 20-24, 26, and 28-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sawabe et al. (6,031,962) in view of Kaneshige et al. (5,913,010).

Consider claim 1, Sawabe et al. teach a computer readable medium having a data structure for managing reproduction of at least multiple reproduction path video data recorded on the computer readable medium, comprising: a data area storing at least a portion of the multiple reproduction path video data (Fig. 5), the multiple reproduction path video data divided into one or more interleaving units (Fig. 6), each interleaving unit associated with one of the reproduction paths (Fig. 6), each interleaving unit starting and ending with a reproduction path change point (Fig. 6), the interleaving units associated with different reproduction paths being interleaved in the data area (Fig. 7), and the video data in each interleaving unit being divided into one or more entry points (Fig. 7); but do not explicitly teach a management area separate from the data area, the management area storing management information for managing

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reproduction of the multiple reproduction path video data, the management information including at least one entry point map associated with each reproduction path, each entry point map identifying the entry points in the video data for the associated reproduction path.

Kaneshige et al. teach a management area separate from the data area, the management area storing management information for managing reproduction of the multiple reproduction path video data, the management information including at least one entry point map associated with each reproduction path, each entry point map identifying the entry points in the video data for the associated reproduction path (col. 15, lines 29-31, Fig. 16, and Fig. 26). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to separate the data area and the management area to efficiently organize the data in the recording medium.

Consider claims 2, 28, and 29, Sawabe et al. teach the computer readable medium, wherein the multiple reproduction path video data is divided into a plurality of clip files (Fig. 6), each clip file including video data associated with one of the multiple reproduction paths (Fig. 6), and each clip file divided into one or more of the interleaving units (Fig. 6).

Consider claims 4, 24, and 26, Sawabe et al. teach the computer readable medium, wherein each interleaved unit in at least one clip file includes a same number of entry points (Fig. 7).

Consider claim 7, Sawabe et al. teach the computer readable medium, wherein each entry point map indicates which of the identified entry points is a last entry point in an interleaved unit (Fig. 6 and Fig. 7).

Consider claim 8, Sawabe et al. teach the computer readable medium, wherein each entry point map indicates which of the identified entry points is a first entry point in an interleaved unit (Fig. 6 and Fig. 7).

Consider claim 9, Sawabe et al. teach the computer readable medium, wherein the entry point maps are aligned in time (Fig. 6 and Fig. 7).

Consider claim 10, Sawabe et al. teach the computer readable medium, further comprising: the management information includes an information file associated with each clip file, each information file including the at least one entry point map for the associated clip file, each entry point map identifying entry points in the clip file (Fig. 6 and Fig. 7).

Consider claim 11, Sawabe et al. teach the computer readable medium, wherein each entry point map indicates which of the identified entry points is a last entry point in an interleaved unit (Fig. 6 and Fig. 7).

Consider claim 12, Sawabe et al. teach the computer readable medium, wherein each entry point map indicates which of the identified entry points is a first entry point in an interleaved unit (Fig. 6 and Fig. 7).

Consider claim 13, Sawabe et al. teach the computer readable medium, wherein the entry point maps are aligned in time (Fig. 6 and Fig. 7).

Consider claim 14, Sawabe et al. and Kaneshige et al. teach a computer readable medium having a data structure for managing reproduction of at least

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multiple reproduction path video data recorded on the computer readable medium, comprising: a data area storing a plurality of clip files (Fig. 6 of Sawabe et al.), each clip file including video data associated with one of the multiple reproduction paths (Fig. 6 of Sawabe et al.), each clip file divided into entry points of video data (Fig. 7 of Sawabe et al.), the entry points in each clip file being grouped into one or more interleaving units (Fig. 7 of Sawabe et al.), and the plurality of clip files being interleaved in the data area on a interleaving unit basis (Fig. 7 of Sawabe et al.); and a management area separate from the data area, the management area storing management information for managing reproduction of the multiple reproduction path video data, the management information including at least one entry point map associated with each reproduction path, each entry point map identifying the entry points in the video data for the associated reproduction path (col. 15, lines 29-31, Fig. 16, and Fig. 26 of Kaneshige et al.).

Consider claim 15, Sawabe et al. teach the computer readable medium, wherein each interleaved unit in at least one clip file includes a same number of entry points (Fig. 7).

Consider claim 17, Sawabe et al. teach a computer readable medium having a data structure for managing reproduction of at least multiple reproduction path video data recorded on the recording medium, comprising: a data area storing at least a portion of the multiple reproduction path video data (Fig. 6 of Sawabe et al.), the multiple reproduction path video data divided into one or more interleaving units (Fig. 6 of Sawabe et al.), each interleaving unit

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associated with one of the reproduction paths (Fig. 6 of Sawabe et al), each interleaving unit being formed of a number of entry points (Fig. 7 of Sawabe et al), and the interleaving units associated with different reproduction paths being interleaved in the data area (Fig. 7 of Sawabe et al); and a management area separate from the data area, the management area storing management information for managing reproduction of the multiple reproduction path video data, the management information including at least one entry point map associated with each reproduction path, each entry point map identifying the entry points in the video data for the associated reproduction path (col. 15, lines 29-31, Fig. 16, and Fig. 26 of Kaneshige et al).

Consider claim 18, Sawabe et al. teach the computer readable medium, wherein the number of entry points is fixed for at least interleaving units associated with a same reproduction path (Fig. 7).

Consider claim 20, Sawabe et al. teach a method of recording (Fig. 11 of Sawabe et al) a data structure for managing reproduction of at least multiple reproduction path video data on a recording medium, comprising: recording at least a portion of the multiple reproduction path video data in a data area of the recording medium (Fig. 6 of Sawabe et al), the multiple reproduction path video data divided into one or more interleaving units (Fig. 6 of Sawabe et al), each interleaving unit associated with one of the reproduction paths (Fig. 6 of Sawabe et al), each interleaving unit starting and ending with a reproduction path change point (Fig. 6 of Sawabe et al), the interleaving units associated with different reproduction paths being interleaved in the data area (Fig. 7 of Sawabe et al),

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and the video data in each interleaving unit being divided into one or more entry points (Fig. 7 of Sawabe et al); and recording management information in a management area separate from the data area, management information for managing reproduction of the multiple reproduction path video data, the management information including at least one entry point map associated with each reproduction path, each entry point map identifying the entry points in the video data for the associated reproduction path (col. 15, lines 29-31, Fig. 16, and Fig. 26 of Kaneshige et al).

Consider claim 21, Sawabe et al. teach a method of reproducing (Fig. 12 of Sawabe et al) a data structure for managing reproduction of at least multiple reproduction path video data recorded on a recording medium, comprising: reproducing at least a portion of the multiple reproduction path video data from a data area of the recording medium (Fig. 6 of Sawabe et al), the multiple reproduction path video data divided into one or more interleaving units (Fig. 6 of Sawabe et al), each interleaving unit associated with one of the reproduction paths (Fig. 6 of Sawabe et al), each interleaving unit starting and ending with a reproduction path change point (Fig. 6 and Fig. 7 of Sawabe et al), the interleaving units associated with different reproduction paths being interleaved in the data area (Fig. 7 of Sawabe et al), and the video data in each interleaving unit being divided into one or more entry points (Fig. 7 of Sawabe et al); and reproducing management information from a management area separate from the data area, the management information for managing reproduction of the multiple reproduction path video data, the management information including at

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least one entry point map associated with each reproduction path, each entry point map identifying the entry points in the video data for the associated reproduction path (col. 15, lines 29-31, Fig. 16, and Fig. 26 of Kaneshige et al).

Consider claim 22, Sawabe et al. teach an apparatus for recording a data structure for managing reproduction of at least multiple reproduction path video data on a recording medium, comprising: an optical recording device to record data on the recording medium (101, 102, and 103 of Fig. 12 of Sawabe et al); an encoder configured to control at least multiple reproduction path video data (72 of Fig. 11 of Sawabe et al); and a controller configured to control to record the encoded multiple reproduction path video data on the recording medium (75 of Fig. 11 of Sawabe et al), the controller for controlling the driver to record at least a portion of the multiple reproduction path video data in a data area of the recording medium (75 of Fig. 11 of Sawabe et al), the multiple reproduction path video data divided into one or more interleaving units (Fig. 6 of Sawabe et al), each interleaving unit associated with one of the reproduction paths (Fig. 6 of Sawabe et al), each interleaving unit starting and ending with a reproduction path change point (Fig. 6 and Fig. 7 of Sawabe et al), and the interleaving units associated with different reproduction paths being interleaved in the data area (Fig. 7 of Sawabe et al), the video data in each interleaving unit being divided into one or more entry points (Fig. 7 of Sawabe et al), and the controller configured to control the optical recording device to record management information for reproduction of the multiple reproduction path video data in a management area separate from the data area of the recording medium, the

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management information including at least one entry point map associated with each reproduction path, each entry point map identifying the entry points in the video data for the associated reproduction path (col. 15, lines 29-31, Fig. 16, and Fig. 26 of Kaneshige et al).

Consider claim 23, Sawabe et al. teach an apparatus for reproducing a data structure for managing reproduction of at least multiple reproduction path video data recorded on a recording medium, comprising: an optical reproducing device configured to reproduce data recorded on the recording medium (101, 102, and 103 of Fig. 12 of Sawabe et al); a controller configured to control the optical reproducing device to reproduce at least a portion of the multiple reproduction path video data from a data area of the recording medium (100 of Fig. 12 of Sawabe et al), the multiple reproduction path video data divided into one or more interleaving units (Fig. 6 of Sawabe et al), each interleaving unit associated with one of the reproduction paths (Fig. 6 of Sawabe et al), each interleaving unit starting and ending with a reproduction path change point (Fig. 6 and Fig. 7 of Sawabe et al), and the interleaving units associated with different reproduction paths being interleaved in the data area (Fig. 7 of Sawabe et al), the video data in each interleaving unit being divided into one or more entry points (Fig. 7 of Sawabe et al), and the controller configured to control the optical recording device to record management information for reproduction of the multiple reproduction path video data in a management area separate from the data area of the recording medium, the management information including at least one entry point map associated with each reproduction path, each entry

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point map identifying the entry points in the video data for the associated reproduction path (col. 15, lines 29-31, Fig. 16, and Fig. 26 of Kaneshige et al).

5. Claims 5, 16, 19, 25, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sawabe et al. (6,031,962) in view of Kaneshige et al. (5,913,010) as applied to claims 1, 14, 17, 22, and 23 above, and further in view of Sugimoto et al. (US 6, 470,140 B1).

Consider claims 5, 25, and 27, Sawabe et al. and Kaneshige et al. teach all the limitations in claims 1 and 3 but fails to explicitly teach the computer readable medium, wherein at least two interleaved units in at least one clip file have a different number of entry points.

Sugimoto et al. teach the recording medium, wherein at least two interleaved units in at least one clip file have a different number of entry points (Fig. 44). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate different number of entry points to efficiently utilize the random access capability of disc media.

Consider claim 16, Sugimoto et al. teach the computer readable medium, wherein at least two interleaved units in at least one clip file have a different number of entry points (Fig. 44).

Consider claim 19, Sugimoto et al. teach the computer readable medium, wherein the number of entry points varies for at least interleaving units associated with a same reproduction path (Fig. 44).

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TAT CHI CHIO whose telephone number is (571)272-9563. The examiner can normally be reached on Monday - Thursday 8:30 AM-6:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thai Tran can be reached on (571)-272-7382. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/T. C. C./
Examiner, Art Unit 2621

/Thai Tran/
Supervisory Patent Examiner, Art Unit 2621

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